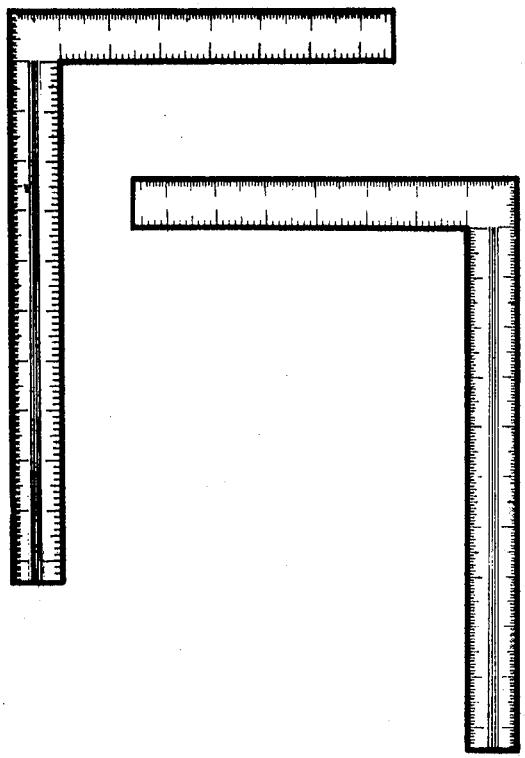
Chapter 13 SQUARES

HOW TO CHOOSE AND USE THEM

The “Types and Uses” section provides you with a list of the types of squares. These pages should help you select the right square for the job.

The “Using Squares” section tells you how to use a square to perform its various functions. The “Care” procedures tell you how to care for squares.



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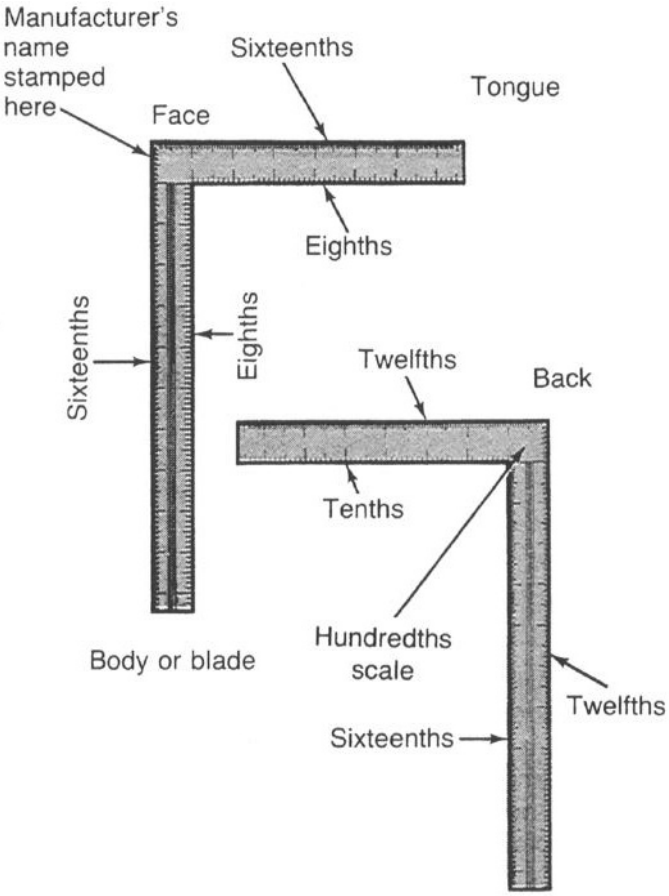
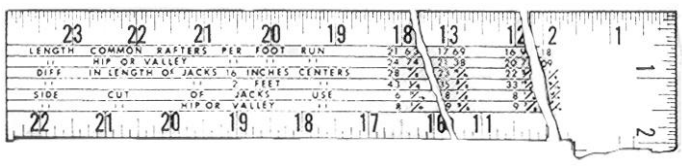
TYPES AND USES

CARPENTER'S SQUARE

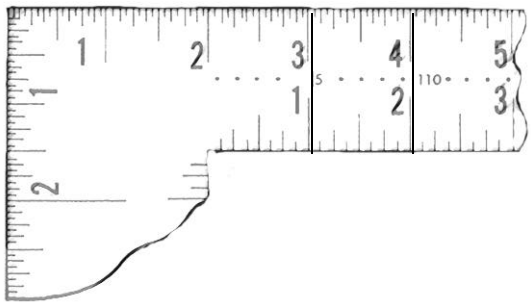


The carpenter's square is made up of two parts: the body or blade, and the tongue. It has inches divided into eighths, tenths, twelfths, and sixteenths.

The face side contains the manufacturer's name and the inches are divided into eighths and sixteenths as shown. There are two tables down the center.

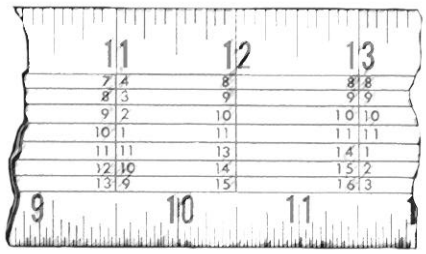


The rafter table is used for determining the length and cut of rafters.

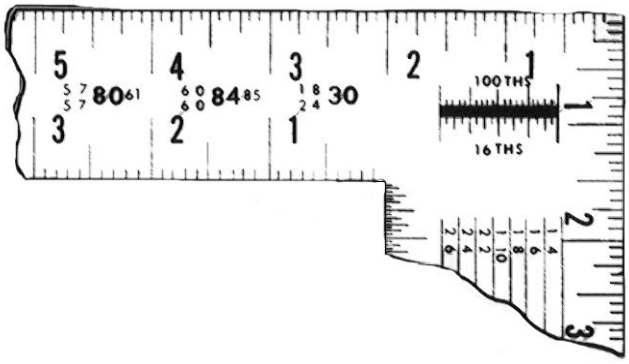


The octagon or eight square scale is used for cutting an octagon from a square piece of material.

The back side contains the hundredths scale and is divided into tenths, twelfths, and sixteenths as shown. There are two tables down the center.



The essex board measure is used to compute the number of board feet in a given piece of lumber.



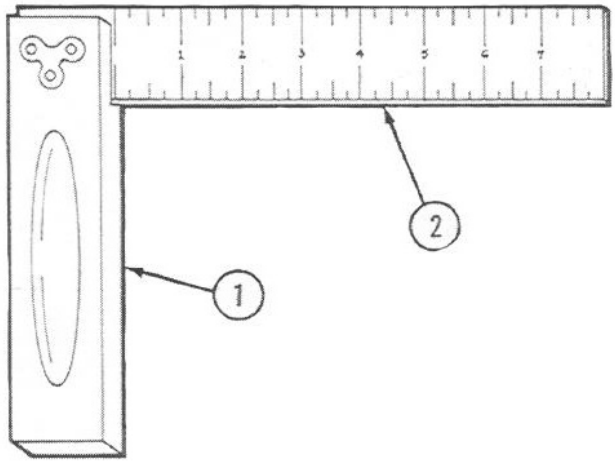
The brace measure is used to find the exact lengths of common braces.

TYPES AND USES - Continued

The following scales or inch divisions are found on the carpenter's square:

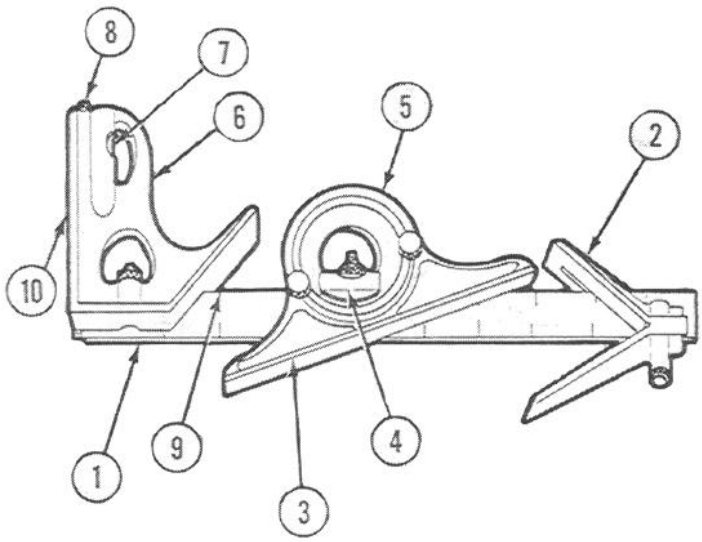
Face of body	outside edge	inches and sixteenths
Face of body	inside edge	inches and eighths
Face of tongue	outside edge	inches and sixteenths
Face of tongue	inside edge	inches and eighths
Back of body	outside edge	inches and twelfths
Back of body	inside edge	inches and sixteenths
Back of tongue	outside edge	inches and twelfths
Back of tongue	inside edge	inches and tenths

TRY SQUARE



The try square is made of a steel or wood stock (1) and a blade (2). The blade is from 2 to 12 inches long and is graduated in eighths. The try square is used to set or check lines which are at right angles (90 degrees) to each other.

COMBINATION SQUARE

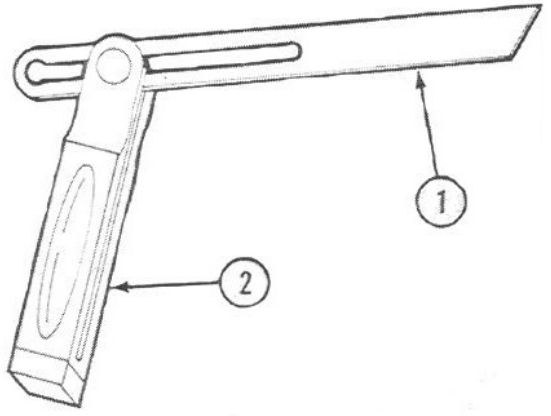


The combination square is made up of the following components:

1. A slotted 12-inch stainless steel rule (1) which is graduated in eighths, sixteenths, thirty-seconds, and sixty-fourths of an inch. It can be used as a measuring scale by itself or with any one of the following components.
2. The center head (2) when attached to the rule, bisects a 90 degree angle. It's used for determining the center of cylindrical work.
3. The protractor (3) has a level (4) and a revolving turret (5) which is graduated in degrees from 0 to 180 or 0 to 90 in either direction. It is used to lay out and measure angles to within one degree.
4. The square head (6) has a level (7), a scribe (8), and 45 degree (9) and 90 degree sides (10). It is used to lay out 45 and 90 degree angles and to check level. It may also be used as a height or depth gage.

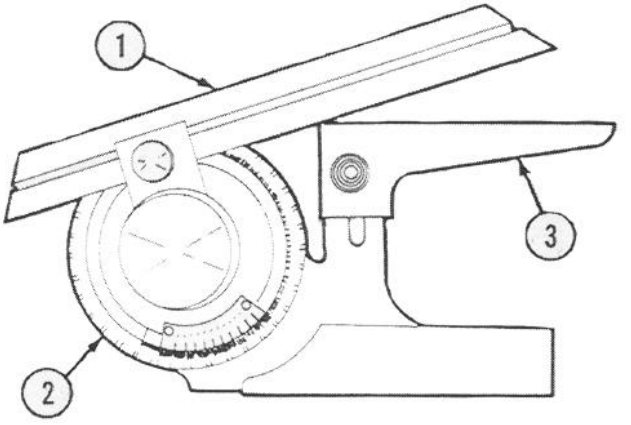
TYPES AND USES - Continued

SLIDING T-BEVEL



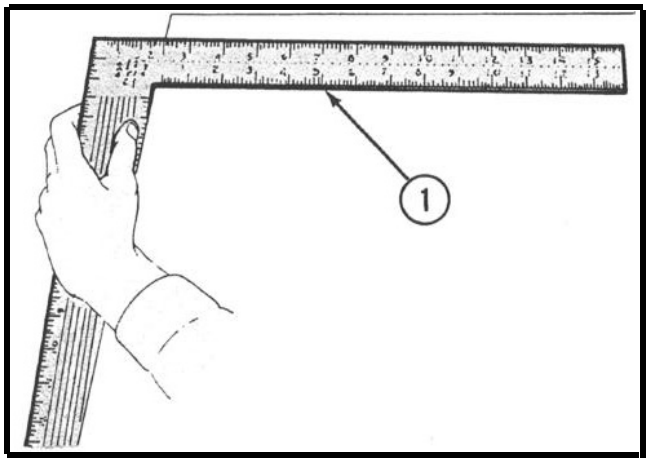
The sliding T-bevel is made up of a slotted blade (1) and a solid stock (2). The blade is adjustable so it can be set to measure any angle. The T-bevel is used for testing bevels and laying out angles.

BEVEL PROTRACTOR



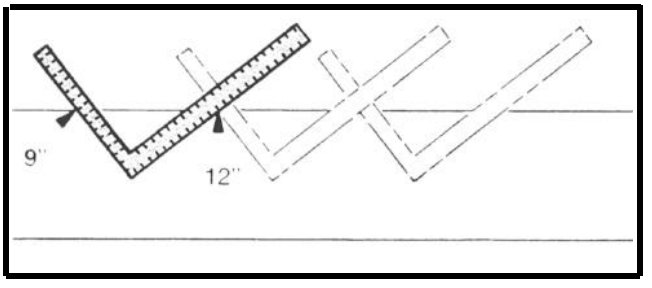
The bevel protractor is made up of an adjustable blade (1) and a graduated dial (2) which contains a vernier scale. The bevel protractor is used to establish an angle and determine its relationship to other surfaces. The acute angle attachment (3) is used for measuring acute angles accurately.

USING A CARPENTER'S SQUARE TO MARK A SQUARE LINE



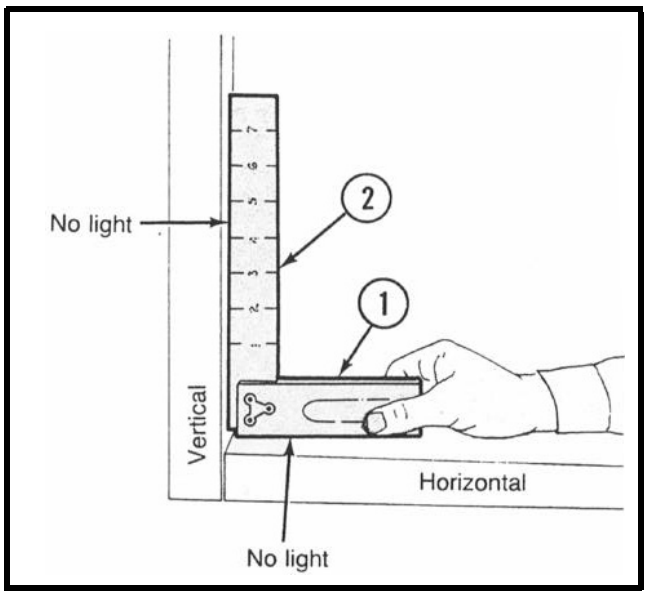
1. To mark a square line, place the blade or tongue (1) of the square against the side of the material with the square tilted slightly so the blade or tongue of the square extends across the work.
2. Mark a line across the work using a pencil or marking crayon.

USING A CARPENTER'S SQUARE TO LAY OUT STEPS

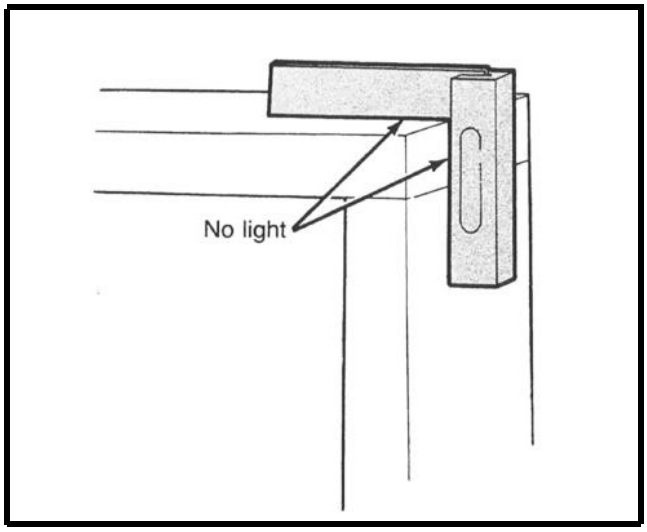


1. The following example shows proper square position when marking cut lines for a series of steps 9" x 12."
2. Continue the process until desired number of steps has been layed out.

USING A TRY SQUARE

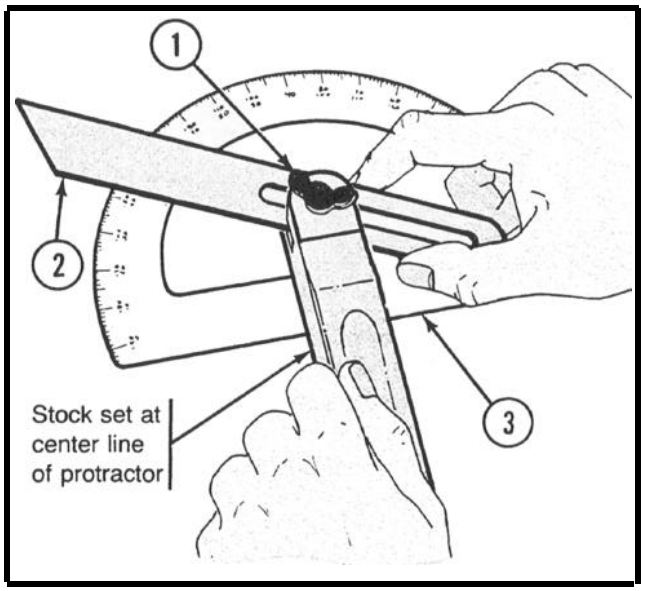


1 To check a square joint, place the stock (I') against a horizontal section and the blade (2) against a vertical section. Light must not be seen around blade edge. If light is seen, the work is not square.

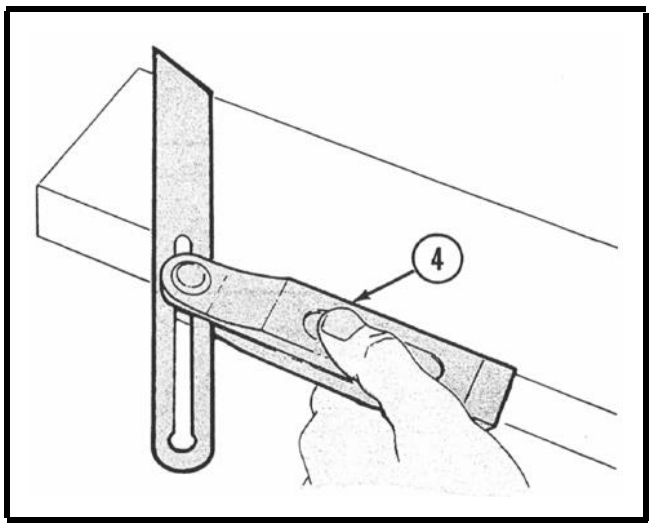


2 To check the end of a board, place stock on vertical edge and extend blade over the end. Light must not be seen around blade edge. If light is seen, the work is not square.

USING A SLIDING T-BEVEL SQUARE

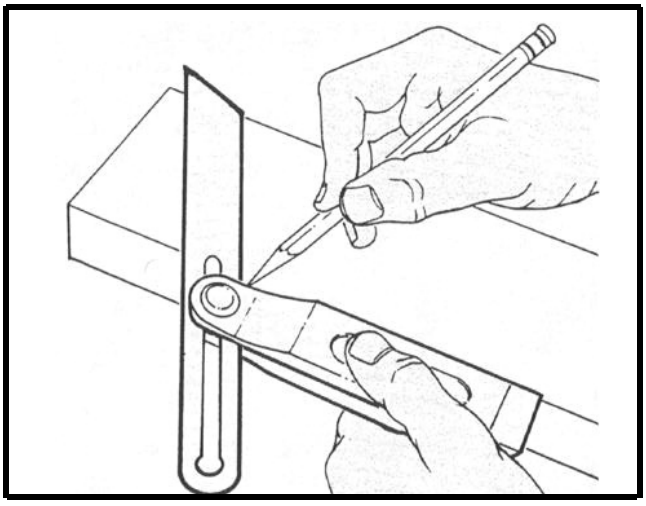


1 Loosen locking nut (1) and adjust blade (2) to measure a desired angle using protractor (3). Tighten locking nut (1).



2 The angle may now be laid out by extending the blade across the board with the stock (4) held firmly against the edge.

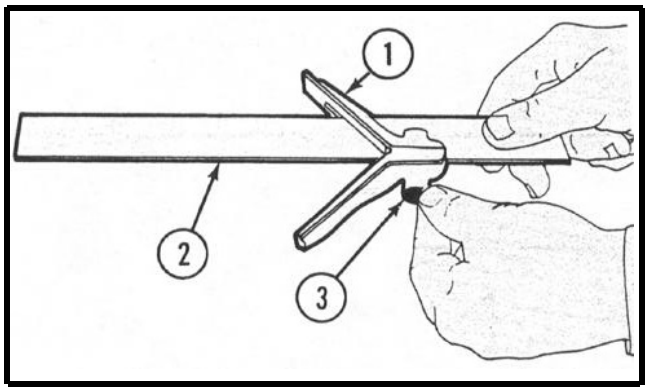
USING A SLIDING T-BEVEL SQUARE - Continued



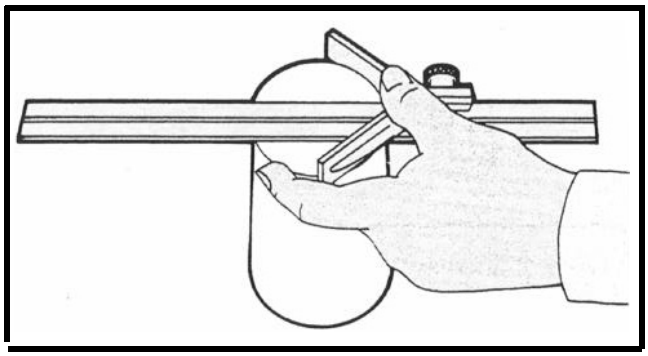
3 Mark with a pencil or marking crayon. Make sure the square does not move while marking.

USING A COMBINATION SQUARE

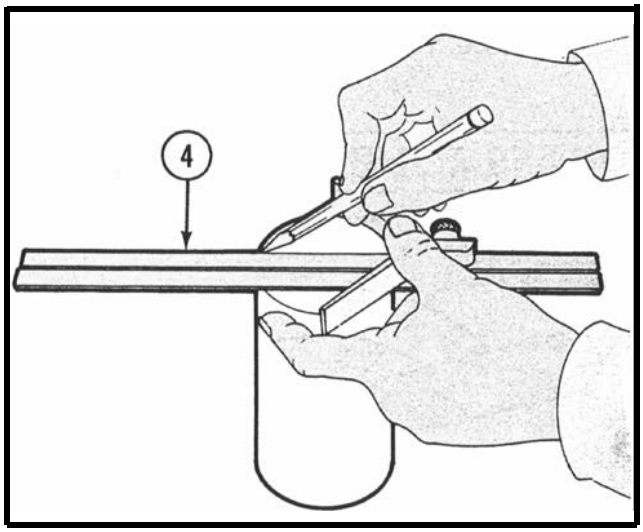
Using as a center head to find the diameter of a cylinder:



1 Slide center head (1) on rule (2) and fasten by tightening setscrew (3).



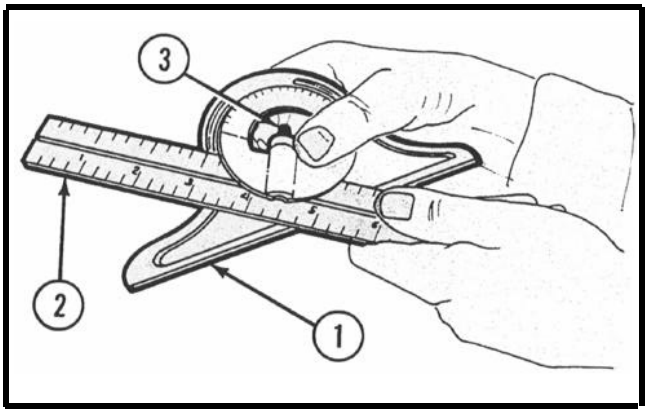
2 Put the center head flush against the cylinder.



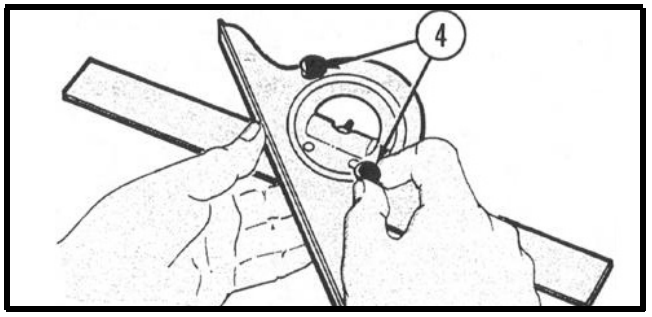
3 Mark the diameter on the cylinder using a pencil or marking crayon by drawing a straight line along the inside edge (4). Make sure the square does not slip while marking.

USING A COMBINATION SQUARE - Continued

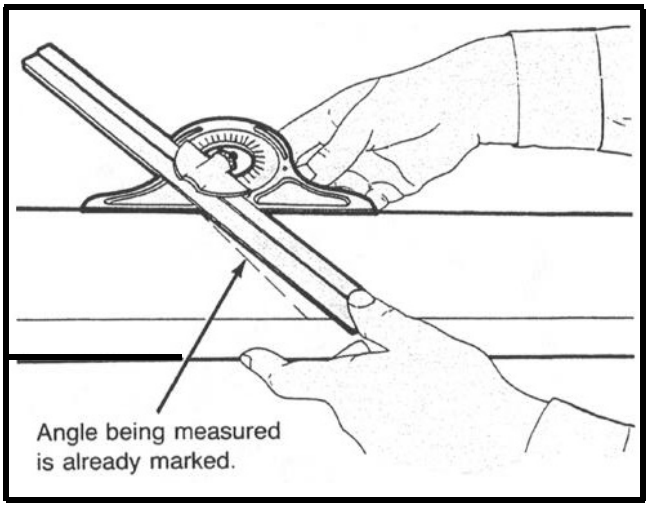
Using as a protractor head to determine an angle:



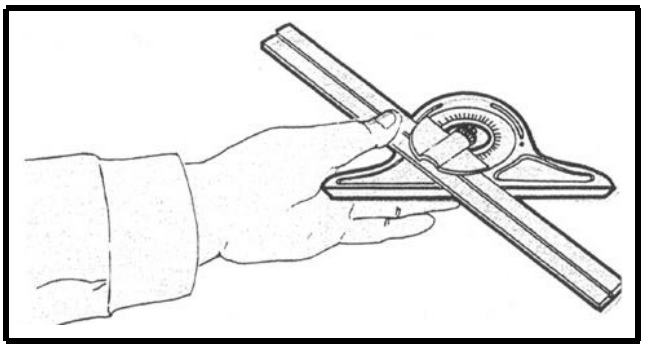
1 Slide protractor head (1) on rule (2) and fasten by tightening setscrew (3).



Loosen the protractor adjustment screws (4) so the protractor may be pivoted about the rule. Angle being measured is already marked.

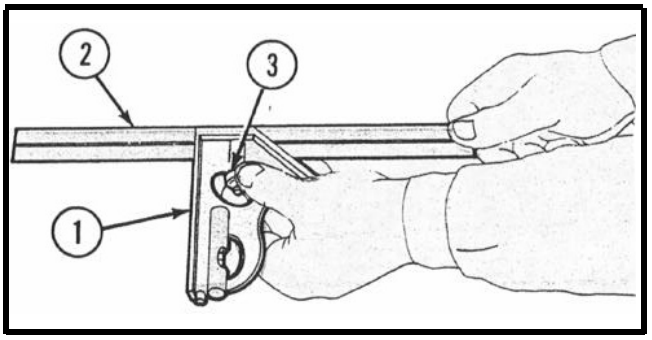


3 Place the rule on the angle being measured and pivot the protractor head against the edge. Tighten adjustment screws.



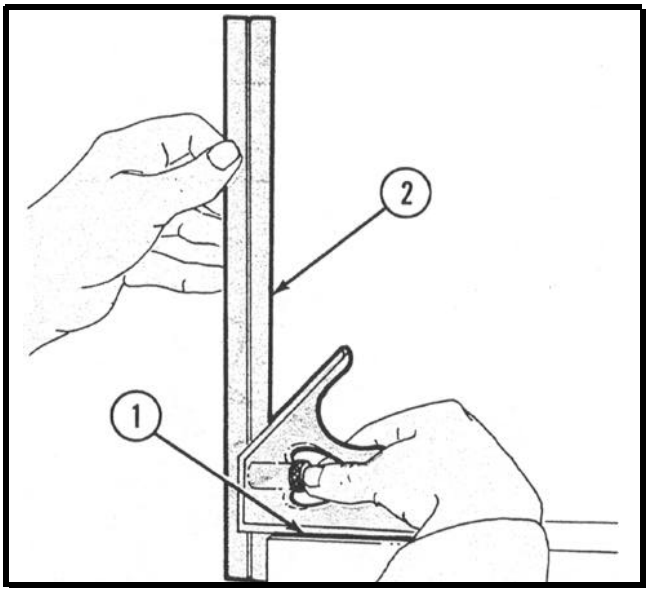
4 Remove and read measured angle on protractor scale.

Using as a combination square to determine depth:



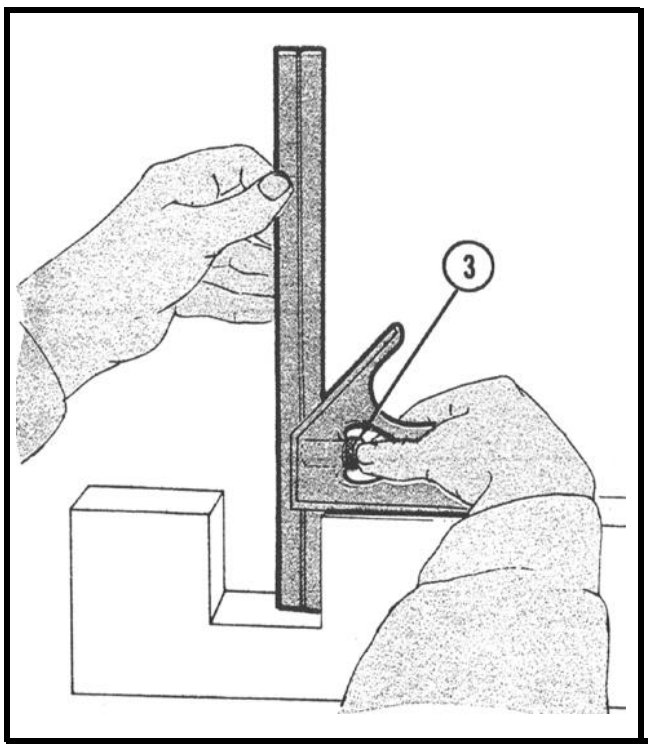
1 Slide square head (1) on rule (2) and fasten by tightening setscrew (3).

2 Loosen setscrew.

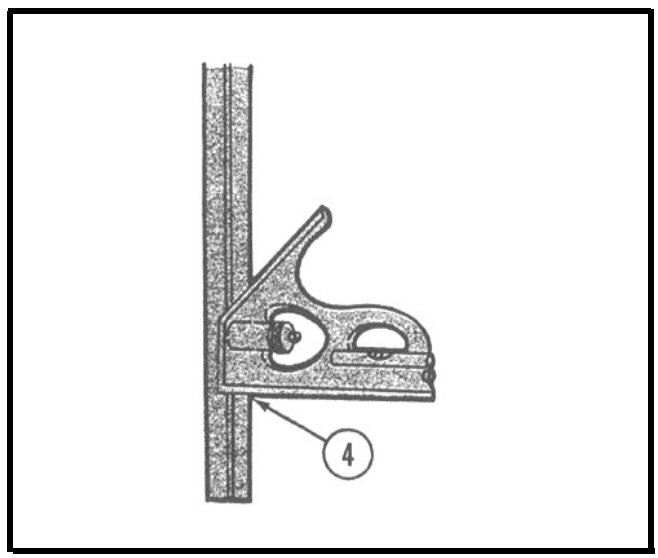


3 Set the flat surface of the square head (1) above the hole and adjust the rule (2) until it hits the bottom.

USING A COMBINATION SQUARE - Continued

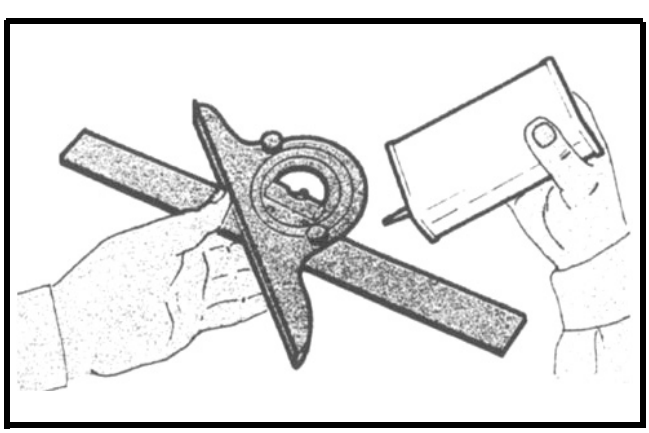


4 Tighten setscrew (3).



5 Remove the combination square and read the depth at the intersection of the rule and the square head (4).

CARE OF SQUARES



Make sure squares are kept clean.

Apply a light coat of oil to all metal surfaces after using.

A square with a loose stock is no good. Replace the square.